

Project Title:	National Resource Center for Health Information Technology (NRC)
Principal Investigator:	Gaylin, Dan, M.P.A.
Organization:	National Opinion Research Center at the University of Chicago (NORC)
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Strategic Goal: The National Resource Center for Health IT crosses all of the AHRQ Strategic Goals:

- Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.
- Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.
- Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: The National Resource Center for Health IT crosses all of the AHRQ Business Goals:

- Knowledge Creation
- Synthesis and Dissemination
- Implementation and Use

Summary: The National Opinion Research Center (NORC) serves as the master contractor for the AHRQ National Resource Center for Health IT (NRC), 2004-2009. The NRC plays a pivotal role in supporting AHRQ's monitoring of all grants and many AHRQ-sponsored health IT portfolio contracts. The NRC was created in 2004 initially to provide direct support to AHRQ-funded health IT grants and some contracts, and to provide an open-access, easy-to-use platform for disseminating findings from those research projects. In 2005, the public NRC Web site (www.healthit.ahrq.gov) was created to serve as the primary dissemination vehicle of information and tools in health IT to the wider health IT community. Under the direction of AHRQ, the NRC is instrumental in categorizing the health IT portfolio, synthesizing results, generating new tools, and engaging experts on important health IT initiatives, challenges, and opportunities. The NRC provides a number of important functions, including:

- Maintaining the NRC Web site (www.healthit.ahrq.gov).
- Providing direct technical and evaluation assistance to grantees, contractors, and would-be contractors through a variety of media, e-mail, telephone, Web-based conferencing, and in-person meetings.
- Collecting and disseminating lessons learned from AHRQ health IT projects via Implementation Stories, Podcasts, Issue Papers, Decisionmaker Briefs, and Emerging Lessons.
- Creating new resources, tools, and best practices to support those in implementing and evaluating health IT.
- Gathering and categorizing existing health IT resources for dissemination via the NRC Knowledge Repository.
- Supporting the AHRQ Annual Meeting, including logistics, preparation, and hosting of grantee networking activities.

NORC at the University of Chicago is the prime contractor for the NRC with a number of partners, including Regenstrief Institute; the Vanderbilt Center for Better Health (VCBH); the Center for IT Leadership (CITL); and John Snow, Incorporated. The NRC has a number of teams that support a set of core activities involving the grantees and contractors, as well as teams that build and maintain the infrastructure and content of the NRC Web site. These teams include the Value and Evaluation Team, the Technical Assistance Team, the Knowledge Repository Team, and the Dissemination Team. In addition, the NRC supports AHRQ in their administration of specific contract initiatives, including the State Regional Demonstration Projects and the Clinical Decision Support Projects. Frequently, the NRC will support additional specific targeted initiatives, such as the e-Prescribing work done in 2008.

This contract has also supported some trans-Federal health IT initiatives through AHRQ's work with the Office of the National Coordinator for Health Information Technology (ONC).

2008 Activities: Below are brief summaries of activities of the core NRC teams in 2008. Several of the example products mentioned below are identified in the Output section of the summary, where Web links are provided.

Value and Evaluation Team

In 2008, the Value and Evaluation Team (E&V) consisted of individuals from Indiana University/Regenstrief Institute; CITL; VCBH; John Snow, Inc.; and NORC. During the year, the E&V team provided ongoing direct evaluation support to AHRQ-funded health IT projects in the form of teleconferences, written and verbal feedback around evaluation plans, and in-person site visits to assist in the revision of evaluation plans. The team developed, released, and populated a compendium of surveys in order to provide the health IT community access to publicly available surveys involving health IT evaluation. A set of pediatric reminders and templates were packaged and made available on the Web site so that implementers of decision support might have a starting point when creating similar tools. The previously written evaluation toolkits underwent revisions in order to expand and refine sections on project design, evaluation measures, evaluation resources and statistical support. Some of the toolkits' measures were expanded to build Quick Reference Guides to provide additional guidance to those wanting to evaluate particular measures. The team prepared two summary reports for AHRQ and hosted a national teleconference on evaluation, entitled "The Importance of Evaluation in Health IT Implementation: Practical Advice for Providers and Health," on May 15, 2008.

Technical Assistance Team

In 2008, the Technical Assistance Team (TA) consisted of individuals from Astech Consulting; Booz Allen Hamilton; Indiana University/Regenstrief Institute; CITL; VCBH; John Snow, Inc.; and NORC. The TA team continued to provide direct technical assistance to AHRQ health IT projects throughout 2008. This technical assistance took the form of one-on-one calls and e-mail support, grantee open-forums, facilitation of grantee interaction, and organization of teleconferences around a variety of topics. The team continued to provide points of contact (POCs) for each of the grantees and conducted regular touch-base calls. The team continued to build and refine a taxonomy to categorize grantees and their technologies of focus and care settings. Throughout 2008, the TA team was largely focused on "knowledge capture" and "tool development," developing a series of publications on lessons learned from the AHRQ Health IT portfolio; these areas included Telehealth, Chronic Disease Management, Barcoded Medication Administration, and Inpatient and Ambulatory Computerized Order Entry. The results of this research were released to the NRC Web site as part of the Emerging Lessons section, short Decisionmaker Brief summaries, and longer Issue Papers. Two additional areas of focus were begun in 2008, including Rural and Underserved Populations, and Long-Term Care. Finally, the TA team planned, scheduled, and hosted eight national teleconferences on key health IT topics. The transcripts and

PowerPoint Presentations are available for all of these teleconferences in the Events section of the NRC Web site, www.healthIT.ahrq.gov. The documents noted are listed in the Outputs section, below.

Knowledge Repository Team

The Knowledge Repository (KR) Team continued its efforts to expand and improve the use of a knowledge repository containing health IT best practices in 2008. Efforts to maintain and improve this knowledge repository involved a broad team of content experts and knowledge assistants, including individuals from CITL, Indiana University/Regenstrief Institute, NORC, and VCBH. In 2008, over 50 expert-reviewed documents were added to the central Knowledge Library Repository (KL), and over 1,100 documents were aggregated from external sources and added to the KL. The content of the NRC Web site was maintained by the KR team, including updating the Health IT Events calendar, as well as adding regular content to the Emerging Lessons, Health IT Tools, and Funding Opportunities sections. Grantee profiles and the grantee map were updated in 2008. Peer-reviewed publications by AHRQ-funded grantees were added to grantee profiles, as well as to the News and Publications page. In 2008, focus groups were held with targeted groups to elicit feedback around the NRC Web site in order to determine future initiatives. In 2008, 45 new portal communities were added to the vibrant NRC Extranet portal community. These communities support collaboration, social networking, and Web conferences within and among each other. The NRC portal itself provides the necessary Web 2.0 tools to share documents and links, host discussion forums, support Web pages, and provide RSS feeds, as well as integrated search functionality to find resources and administration modules to manage users within a community. There are currently more than 200 communities actively collaborating and participating with more than 6,000 users.

Dissemination Team

In 2008, the Dissemination Team consisted of individuals from Burness Communications, Indiana University/Regenstrief Institute, CITL, and NORC. Dissemination activities included writing implementation stories and podcast scripts, producing the grantee e-mail newsletter, editing Web content, and participating in national conferences.

State Regional Demonstration and Clinical Decision Support Project Support

Throughout 2008, the NRC provided support to both the State Regional Demonstration (SRD) and Clinical Decision Support (CDS) projects. This support included organizing and facilitating 11 meetings between all 6 SRD projects and AHRQ, 9 of which were held by teleconference and 2 as in-person meetings. Evaluation support was provided to the SRDs throughout the year. The NRC tracked the SRD contracts' monthly progress reports and deliverables. A framework for SRD sustainability plans was developed by the NRC and a Liability Insurance report was written.

The NRC facilitated bi-weekly calls with ARHQ project officers for project planning and oversight of the CDS projects. Project and work plans of both CDS contracts were reviewed, and feedback was presented to ARHQ. The NRC formed a 15-member technical expert panel to conduct key activities for CDS projects. In addition, the NRC organized and facilitated four technical expert panel meetings, two of which were in-person meetings. The NRC contracted and oversaw the development of three white papers on CDS topics. The NRC made the preparations for a CDS Town Hall meeting with AMIA and a CDS DesignShop meeting with VCBH.

Support of e-Prescribing Activities

In 2006, the NRC hosted an e-prescribing standards expert meeting. In addition, they organized and hosted three national teleconferences on findings from the evaluation of e-prescribing pilot sites, managed

the electronic prior authorization (e-PA) subcontract, and produced a program brief focused on e-prescribing.

The AHRQ NRC Steering Committee held their annual meeting on June 5, 2008. The Steering Committee includes a diverse group of leaders in the field of health IT, and representatives from AHRQ and HRSA attended the meeting. The agenda for this year's meeting was divided into three segments: 1) a retrospective overview of NRC activities to date; 2) a group discussion of recommended activities in the near future, including recommendations about how to best disseminate outputs and activities of the NRC; and 3) a group discussion of a broader long-term vision for the NRC. The Steering Committee was asked to consider specific recommendations and next steps for the NRC.

The members of this group are as follows:

- **Cheryl Austein-Casnoff, M.P.H.** Associate Administrator for Health Information Technology, Health Resources and Services Administration, U.S. Department of Health and Human Services
- **Michael S. Barr, M.D., M.B.A., F.A.C.P.** Vice President, Practice Advocacy and Improvement for the American College of Physicians
- **Meryl Bloomrosen, M.B.A.** (representing Don Detmer, M.D., M.A., American Medical Informatics Association) Associate Vice President, American Medical Informatics Association
- **Pascale Carayon, Ph.D.** Procter & Gamble Bascom Professor and Director of the Center for Quality and Productivity Improvement, University of Wisconsin-Madison
- **Karen C. Fox, Ph.D.** Chief Operating Officer, Delta Health Alliance
- **Mark Frisse, M.D., M.B.A., M.Sc.** Accenture Professor and Director, Vanderbilt University
- **Betsy L. Humphreys, B.A., M.L.S.** Deputy Director, U.S. National Library of Medicine
- **Charles D. Kennedy, M.D.** Vice President of Health Information Technology, WellPoint, Inc.
- **Carmen B. Lozzio, M.D., F.A.C.M.G.** Professor, University of Tennessee
- **Blackford Middleton, M.D., M.P.H., M.Sc.** Corporate Director, Clinical Informatics Research & Development; Chairman, Center for Information Technology Leadership at Partners Healthcare System; Assistant Professor, Brigham and Women's Hospital
- **J. Marc Overhage, M.D., Ph.D.** President and CEO, Indiana Health Information Exchange; Director of Medical Informatics, Regenstrief Institute, Inc.; Professor, Indiana University School of Medicine
- **David D. Parker, R.N., M.H.S.** (For Theresa Cullen, M.D., M.S., I.T.S.C.) Indian Health Service, Office of Information Technology

Selected Outputs

[Health IT Tools Landing Page](#)

The Health IT Tools landing page was a new addition to the Web site in 2008. This page provides direct links to tools developed or obtained by the NRC to assist health care organizations as they implement health IT into their practices. A sample of these tools is summarized below:

- [Compendium of Surveys](#)
A searchable database of publicly available surveys focused on the evaluation of health IT projects. The surveys are categorized by survey type, technology, care setting, and respondent type. Each of the survey authors have given their permission for unrestricted use of the surveys so that organizations may download them and use them as is, or modify them for their own use.
- [Evaluation Toolkits](#)
The evaluation toolkits provide guidance for health IT project teams to assist them in their development of evaluation plans and choosing measures for those plans. One toolkit is focused on health IT projects in general, the other focused on Health Information Exchange projects.
- [Quick Reference Guides](#)
The quick reference guides provide detailed information about specific measures that can be incorporated into an evaluation plan. Each guide includes a brief description of the measure, summary of current literature on the measure, measurement methodology, and study design and analysis considerations.
- [Pediatric Rules, Reminders](#)
This tool provides pediatricians with information about the use of rules and reminders in an electronic health record to improve adherence to clinical guidelines. A set of pediatric rules and reminders developed at Partner's Healthcare in Boston are available for download.
- [Pediatric Templates](#)
These templates for acute and chronic pediatric conditions serve as an efficient way for clinicians to document a visit in an electronic health record and enhance adherence to clinical guidelines for those conditions. The templates were developed at Partner's Healthcare in Boston and are available for download.
- [Health IT Bibliography](#)
The health IT bibliography compiles high quality resources to provide a wealth of information for individuals interested in health IT. The items in the health IT bibliography come from both peer reviewed journals and Web-based resources from reputable health care organizations.

[The Clinical Decision Support \(CDS\) Initiative](#)

AHRQ has funded a variety of projects to further the use and development of CDS systems, which include demonstrations, white papers, and guides for implementing CDS. A dedicated portion of the NRC Web site was developed in 2008 to house materials developed under these projects.

[Implementation Stories](#)

These stories feature AHRQ-funded projects where investigators successfully implemented health IT into everyday clinical practice and greatly improved patient care. The following implementation stories were developed in 2008:

- **Project:** [ECHO Extension for Community Healthcare Outcomes](#)
Principal Investigator: Sanjeev Arora, M.D.
- **Project:** [Holomua Project Improving Transitional Care in Hawai'i](#)
Principal Investigator: Christine Maii Sakuda, M.B.A.
- **Project:** [New Studies on Return on Investment for Health Information Technology Adoption](#)
Principal Investigator: Mark Frisse, M.D.
- **Project:** [Enhancing Quality in Patient Care \(EQUIP\) Project](#)
Principal Investigator: Fred Rachman, M.D.
- **Project:** [Improving Care in a Rural Region with Consolidated Imaging](#)
Principal Investigator: Robert Coleman
- **Project:** [Creating an Evidence Base for Vision Rehabilitation](#)
Principal Investigator: Cynthia Stuen, Ph.D.
- **Project:** [Implementing an Ambulatory Electronic Medical Record and Improving Shared Access](#)
Principal Investigator: Michael Deluca, M.B.A., M.S.

Podcasts

Podcasts feature interviews with several principal investigators of AHRQ-funded Health IT projects who have had great success implementing health IT into their practice. The following Podcasts were released in 2008:

- **Project:** [ECHO Extension for Community Healthcare Outcomes](#)
Principal Investigator: Sanjeev Arora, M.D.
- **Project:** [Valuation of Primary Care-Integrated Telehealth](#)
Principal Investigator: Ken McConnochie, M.D., M.P.H.
- **Project:** [Enhancing Quality in Patient Care \(EQUIP\) Project](#)
Principal Investigator: Fred Rachman, M.D.
- **Project:** [Holomua Project Improving Transitional Care in Hawai'i](#)
Principal Investigator: Christine Maii Sakuda, M.B.A.

Liability Insurance Report

This report summarizes key findings from the AHRQ-funded State and Regional Demonstration projects and other Regional Health Information Organizations (HIOs). The report contains information about considerations, issues, and challenges associated with liability insurance for Regional Health Information Organizations, as well as recommendations from HIO representatives, lawyers, and insurance agents about the future handling of liability problems. Although released in 2009, the majority of the research for this report was developed in 2008.

e-Prescribing Program Brief

A program brief was developed in 2008 on e-Prescribing. It describes AHRQ's role in supporting e-Prescribing and provides information about the various e-Prescribing projects that AHRQ has funded.

[e-Prescribing Expert Panel Report](#)

AHRQ convened a group of experts to discuss standards for e-Prescribing, building on the set of standards created by previous AHRQ and CMS funded projects. The report contains a summary of the discussion about the technical work, research, and testing needed for the standards to be recommended for widespread adoption.

Lessons Learned Topics

The NRC completed content around a number of “lessons learned” topics in 2008. These included Ambulatory Computerized Provider Entry (ACPOE), Barcoded Medication Administration (BCMA), Telehealth, and Inpatient Computerized Physician Order Entry (CPOE). In 2008, this content was developed into three AHRQ-approved deliverable formats for the dissemination of “lessons learned” to the public. The three deliverable formats were:

- Emerging Lessons: Content geared toward Web publication on the AHRQ NRC Web site, with a section devoted to lessons from the AHRQ grantee programs.
- Decisionmaker Briefs: Two-page descriptions of lessons learned intended for organizational leaders and novice audiences.
- Issue Papers: In-depth, detailed reports of grantee findings and lessons learned.

Links to each of these documents are below:

Ambulatory CPOE

- [Emerging Lessons](#) - Computerized Provider Order Entry - Ambulatory
- [Decisionmaker Brief](#) - Computerized Provider Order Entry
- [Issue Paper](#) - Ambulatory Computerized Provider Order Entry (CPOE) Findings from the AHRQ Health It Portfolio

Barcoded Medication Administration

- [Emerging Lessons](#) - Bar-Coded Medication Administration
- [Decisionmaker Brief](#) - Bar-Coded Medication Administration
- [Issue Paper](#) - Using Barcode Medication Administration To Improve Quality And Safety Findings From The AHRQ Health IT Portfolio

Chronic Disease Management

- [Emerging Lessons](#) - Health IT for Improved Chronic Disease Management
- [Decisionmaker Brief](#) - Chronic Disease Management
- [Issue Paper](#) - Innovations in Using Health IT for Chronic Disease Management Findings from the AHRQ Health IT Portfolio

Inpatient CPOE

- [Emerging Lessons](#) - Computerized Provider Order Entry - Inpatient
- [Decisionmaker Brief](#) - Computerized Provider Order Entry
- [Issue Paper](#) - Inpatient Computerized Provider Order Entry (CPOE) Findings from the AHRQ Health IT Portfolio

Telehealth

- [Emerging Lessons](#) - Telehealth

- [Decisionmaker Brief](#) - Telehealth
- [Issue Paper](#) - Using Telehealth to Improve Quality and Safety Findings from the AHRQ Health IT Portfolio

Presentations at National Meetings

Dissemination of NRC activities was partially conducted by submitting abstracts to national conferences and, when accepted, conducting AHRQ-sponsored in-person presentation. These presentations were as follows:

- Cusack CM, Sapna Shah S. Web-Based Tools from AHRQ's National Resource Center. 2008 AMIA Annual Symposium, Washington, D.C.
- Dixon BE, Zafar A, Whipple EC, Cravens GD, McGowan JJ. Facilitating Informatics Knowledge Dissemination: Targeted Implementation Resources for Health Care Providers. 2008 AMIA Annual Symposium, Washington, D.C.
- Dixon B, Dimitropoulos L. Privacy and Security Solutions to Reduce Variation, Confusion, and Complexity in Organization-level Business Practices, Policies, and State Laws Related to Interoperable Health Information Exchange. HIMSS 2008 Annual Meeting, Chicago, IL.
- Moiduddin A, Dullabh P, Woolley R. Advancing the ePrescribing Research Agenda. 2008 AMIA Annual Meeting, Washington, D.C.
- Shah S, Cusack C. Health IT Survey Compendium. 2008 Academy Health Annual Research Meeting, Washington, D.C.
- Zayas-Cabán T, Dixon BE. Consumer Health IT Design: Human factors considerations for devices and systems used in the home. Healthcare Systems Ergonomics and Patient Safety International Conference; June 25-27, 2008; Strasbourg, France.
- White PJ, Woolley R. The Federal Government's Evaluation of E-Prescribing Standards: Challenges and Recommendations for Improvement. HIMSS 2008 Annual Meeting, Chicago, IL.